AGENDA
St. Lucie River Watershed Protection Plan
Working Team Meeting #2

Thursday, November 29, 2007
1330 - 1630

SFWMD Martin/St. Lucie Service Center
780 Southeast Indian Street
Stuart, FL 34997
(772) 223-2600

1. Introduction and Opening Remarks

2. Proposed Schedule for Plan Development
    a. Working Team Meetings

3. Table of Contents – Initial DRAFT

4. Performance Measures

5. Proposed Modeling Approach

6. Discussion of DRAFT Management Measure Sheets
    a. Review existing sheets
    b. Development plan for remaining sheets

7. Agricultural Best Management Practices - FDACS

8. Urban Best Management Practices - FDEP

9. Public Comment Period*

10. Closing Remarks and Action Items

* As time permits, a brief Public Comment Period will be held at this point in the agenda

St. Lucie River Watershed Protection Plan
Proposed 2008 Meeting Schedule:

Working Team Meetings – afternoon

Research and Water Quality Monitoring Meetings – morning

January 15

February 26

March 25

April 22

May 27

June 24

July 22

August 26

September 23

*All listed meetings will be held at the following location***:**

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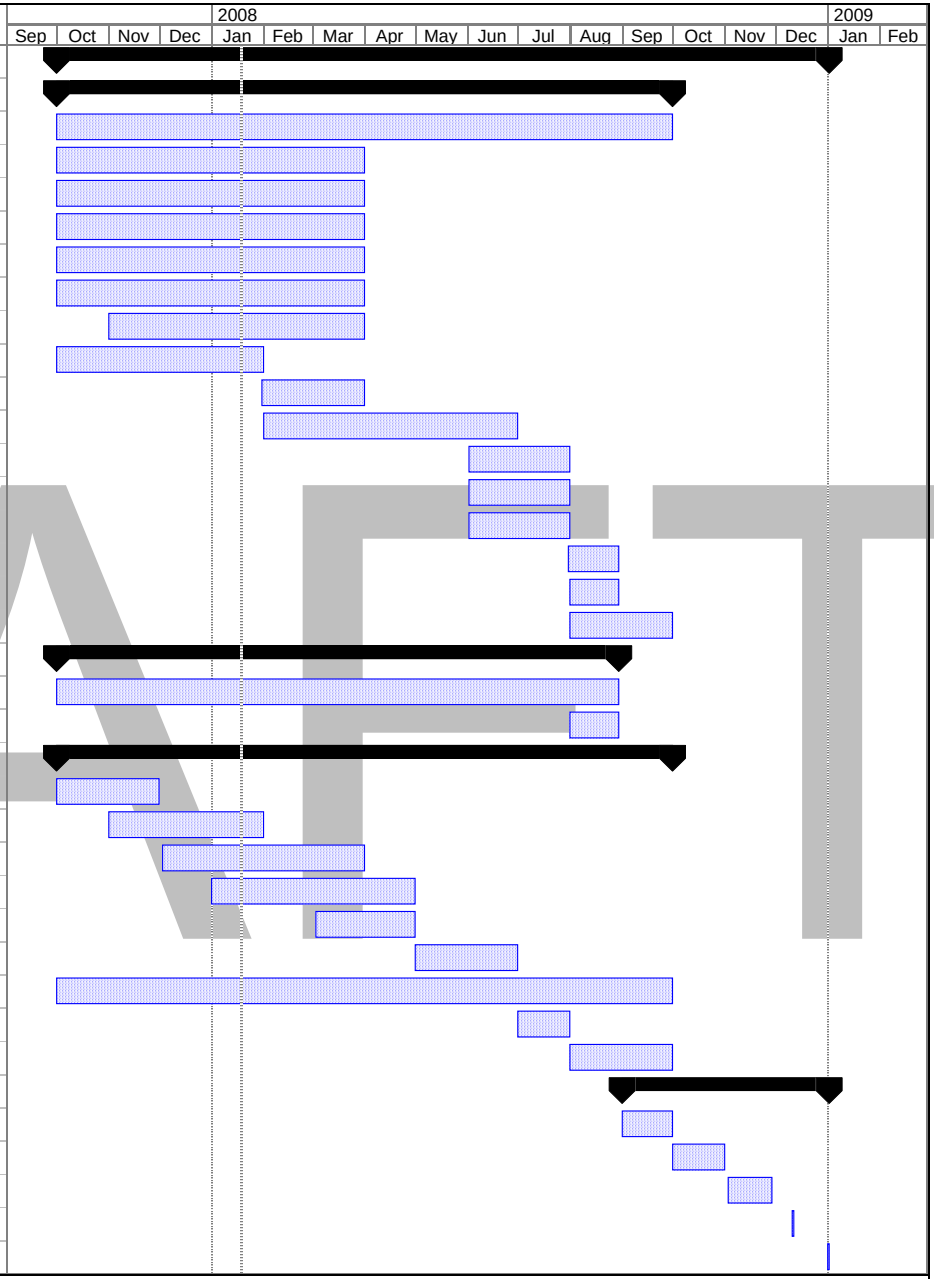
St. Lucie River Watershed Protection Plan
DRAFT Proposed Work Plan Schedule

Component	Task	Dates
Watershed Construction Project	Internal and External Team Meetings	October 07 - September 08
	Characterization of existing conditions	October 07 - March 08
	Identification of Problems and Opportunities	October 07 - March 08
	Determination of planning objectives	October 07 - March 08
	Identification of planning constraints	October 07 - March 08
	Selection of Performance Measures	October 07 - March 08
	Watershed Model Development	November 07 - March 08
	Identification of Management Measures	October 07 - January 08
	Formulation of Alternatives	January 08 - March 08
	Modeling of Alternatives	February 08 - June 08
	Evaluation of Alternatives	June 08 - July 08
	Water Quality Summary	June 08 - July 08
	Water Quantity Summary	June 08 - July 08
	Selection of Recommended Projects and Actions	July 08 - August 08
	"Details" of Recommended Projects	August 08
	Documentation for DRAFT Final Report	August 08 - September 08
Watershed Pollutant Control Program	Develop Pollutant Control Program	October 07 - August 08
	Documentation for DRAFT Final Report	August 08 - September 08
Research & Water Quality Monitoring Program	Identify Goals and Objectives of the Plan	October 07 - November 07
	Establish Status, Trends and Targets in Hydrology, Water Quality and Aquatic Habitat	November 07 - January 08
	Monitoring on a Regional Scale	December 07 - March 08
	Monitoring on a Project Scale	January 08 - April 08
	Research for Adaptive Management	March 08 - April 08
	Develop Recommendations	May 08 - June 08
	Internal and External Team Meetings	October 07 - September 08
	Compilation of DRAFT Plan	July 08
	Documentation for DRAFT Final Report	August 08 - September 08
Development of River Watershed Protection Plan	Compile three sections of DRAFT Plan	September 08
	Release DRAFT Plan for Public Review	October 08
	Incorporate Public Comments	November 08
	DRAFT Plan to SFWMD Governing Board	December 2008
	Final Plan to State of Florida	January 1, 2009

ID	Task Name	Duration	Start	Finish
1	**St. Lucie River Watershed Protection Plan**	**329 days?**	**Mon 10/1/07**	**Thu 1/1/09**
2	**Watershed Construction Project**	**262 days?**	**Mon 10/1/07**	**Tue 9/30/08**
3	Internal and External Team Meetings	262 days?	Mon 10/1/07	Tue 9/30/08
4	Characterization of existing conditions	131 days?	Mon 10/1/07	Mon 3/31/08
5	Identification of Problems and Opportunities	131 days?	Mon 10/1/07	Mon 3/31/08
6	Determination of planning objectives	131 days?	Mon 10/1/07	Mon 3/31/08
7	Identification of planning constraints	131 days?	Mon 10/1/07	Mon 3/31/08
8	Selection of Performance Measures	131 days?	Mon 10/1/07	Mon 3/31/08
9	Watershed Model Development	108 days?	Thu 11/1/07	Mon 3/31/08
10	Identification of Management Measures	89 days?	Mon 10/1/07	Thu 1/31/08
11	Formulation of Alternatives	43 days?	Thu 1/31/08	Mon 3/31/08
12	Modeling of Alternatives	107 days?	Fri 2/1/08	Mon 6/30/08
13	Evaluation of Alternatives	44 days?	Mon 6/2/08	Thu 7/31/08
14	Water Quality Summary	44 days?	Mon 6/2/08	Thu 7/31/08
15	Water Quantity Summary	44 days?	Mon 6/2/08	Thu 7/31/08
16	Selection of Recommended Projects and Actions	22 days?	Thu 7/31/08	Fri 8/29/08
17	"Details" of Recommended Projects	21 days?	Fri 8/1/08	Fri 8/29/08
18	Documentation for DRAFT Final Report	43 days?	Fri 8/1/08	Tue 9/30/08
19	**Watershed Pollutant Control Program**	**240 days?**	**Mon 10/1/07**	**Fri 8/29/08**
20	Develop Pollutant Control Program	240 days?	Mon 10/1/07	Fri 8/29/08
21	Documentation for DRAFT Final Report	21 days?	Fri 8/1/08	Fri 8/29/08
22	**Research & Water Quality Monitoring Program**	**262 days?**	**Mon 10/1/07**	**Tue 9/30/08**
23	Identify Goals and Objectives of the Plan	45 days?	Mon 10/1/07	Fri 11/30/07
24	Establish Status, Trends and Targets in Hydrology, Wa	66 days?	Thu 11/1/07	Thu 1/31/08
25	Monitoring on a Regional Scale	86 days?	Mon 12/3/07	Mon 3/31/08
26	Monitoring on a Project Scale	87 days?	Tue 1/1/08	Wed 4/30/08
27	Research for Adaptive Management	43 days?	Mon 3/3/08	Wed 4/30/08
28	Develop Recommendations	43 days?	Thu 5/1/08	Mon 6/30/08
29	Internal and External Team Meetings	262 days?	Mon 10/1/07	Tue 9/30/08
30	Compilation of DRAFT Plan	23 days?	Tue 7/1/08	Thu 7/31/08
31	Documentation for DRAFT Final Report	43 days?	Fri 8/1/08	Tue 9/30/08
32	**Development of River Watershed Protection Plan**	**89 days?**	**Mon 9/1/08**	**Thu 1/1/09**
33	Compile three sections of DRAFT Plan	22 days?	Mon 9/1/08	Tue 9/30/08
34	Release DRAFT Plan for Public Review	23 days?	Wed 10/1/08	Fri 10/31/08
35	Incorporate Public Comments	20 days?	Mon 11/3/08	Fri 11/28/08
36	DRAFT Plan to SFWMD Governing Board	1 day?	Thu 12/11/08	Thu 12/11/08
37	Final Plan to State of Florida	1 day?	Thu 1/1/09	Thu 1/1/09



Project: DRAFT_ProjectSchedule_112
Date: Fri 1/18/08

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

Draft Proposed St. Lucie River Watershed Protection Plan Outline
11/29/2007

1.0 Executive Summary

2.0 Introduction

- 2.1 Legislation (SB392) and Mandated Plans
- 2.2 Purpose and Scope
- 2.3 Study Area

3.0 Planning Process

- 3.1 Previous studies and ongoing projects
- 3.2 Problems and Opportunities
- 3.3 Plan Objectives
- 3.4 Planning Constraints
- 3.5 Performance Measures

4.0 Interagency Coordination and Public Involvement

- 4.1 Interagency Coordination
- 4.2 Public and Stakeholder Involvement

5.0 Total Maximum Daily Loads

- 5.1 Development of TMDLs for watershed
- 5.2 Basin Management Action Plan Coordination
- 5.3 Recommendations

6.0 Water Quality Data Analysis

- 6.1 Introduction
- 6.2 Sub-watershed Water Quality
- 6.3 Lake Okeechobee Water Quality
- 6.4 Conclusions

7.0 Water Quantity Data Analysis

- 7.1 Introduction
- 7.2 Modeling Overview
- 7.3 Conclusions

8.0 Watershed Construction Project

8.1 Formulation of Alternatives
8.2 Alternative Plan Evaluation and Comparison
8.3 Planned Projects and Actions
- 8.3.1 Summary
- 8.3.2 Plan Features
- 8.3.3 Real Estate
- 8.3.4 Operations & Maintenance
- 8.3.5 Monitoring
- 8.3.6 Permitting
- 8.3.7 Implementation
- 8.3.8 Preliminary Cost Estimates
- 8.3.9 Funding Opportuities

9.0 Watershed Pollutant Control Program

9.1 Non-point source Best Management Practices
9.2 Private Lands Grant Programs
9.3 Disposal of domestic wastewater residual and septage
9.4 Land Application of Animal Manure

10.0 Watershed Research and Water Quality Monitoring Program

- 10.1 Introduction
  - 10.1.1 Description of Enabling Legislation
  - 10.1.2 Document Structure
- 10.2 Goals and Objectives of Monitoring and Research
- 10.3 The River and Its Watershed: Status, Trends and Targets in Hydrology, Water Quality and Aquatic Habitat
  - 10.3.1 Delineation of Study Area
    - 10.3.1.1 The River and Estuary
    - 10.3.1.2 The Watershed and Lake Okeechobee Connection
  - 10.3.2 Watershed Hydrology and Loading
    - 10.3.2.1 Hydrology
    - 10.3.2.2 Water Quality Status and trend: Nutrient and DO
    - 10.3.2.3 Nutrient Loading
  - 10.3.3 River/Estuary Salinity, Water Quality and the Related Aquatic Habitats
    - 10.3.3.1 Salinity: Range and Stratification, Flow Correlation
    - 10.3.3.2 Water Quality Status and Trend: DO, Nutrients, and Chlorophyll-a, Nutrient Susceptibility Index
    - 10.3.3.3 Aquatic Habitats
      - 10.3.3.3.1 Submersed Aquatic Vegetation: Distribution, Relationship with Water Quality
      - 10.3.3.3.2 Oysters: Distribution, Relationship with Water Quality

10.3.4 Salinity Envelopes and Freshwater Inflow Targets
10.3.4.1 Technical Basis
10.3.4.2 Envelopes and Targets
10.3.5 Influence of Lake Okeechobee and Watershed Discharge on Freshwater Inflow to Estuaries
10.4 Monitoring on a Regional Scale
10.4.1 Definition of Regional Scale Monitoring
10.4.2 Nutrient Loading and Water Quality Monitoring Program
10.4.2.1 Existing Stations: Parameters, Frequency and Duration
10.4.3 Freshwater Inflows Monitoring Program
10.4.3.1 Existing Stations: Frequency and Duration
10.4.4 Aquatic Habitat Monitoring Program
10.4.4.1 Existing Stations: Frequency and Duration
10.4.5 Power Analysis
10.4.5.1 Water Quality Example
10.4.5.2 Submersed Aquatic Vegetation Example
10.5 Monitoring on the Project Scale
10.5.1 Definition of Project Level Monitoring
10.5.2 Projects Considered in the Plan *(these are examples at this point)*
10.5.2.1 Reservoirs and STAs
10.5.2.2 BMPs
10.5.2.3 Stormwater Retrofit
10.5.3 Monitoring for Load Reduction- removal efficiency, permit requirements
10.6 Research for Adaptive Management
10.6.1 Purpose of Research
10.6.1.1 Reduce Uncertainty in Project Design and Function
10.6.1.2 Reduce Uncertainty of River Watershed Protection Plan Benefits at the Regional Scale
10.6.2 Status of Current Research Related to Water Quality
10.6.2.1 Benthic Flux
10.6.2.2 Estuarine Turbidity Maxima
10.6.2.3 Organic Nitrogen
10.6.3 Status of Current Assessment Tools
10.6.3.1 Watershed Model
10.6.3.2 Estuarine Hydrodynamic/Salinity and Water Quality Model
10.6.3.3 Ecological Model
10.7 Recommendations
10.7.1 The Recommendations
10.7.1.1 Monitoring Needs on the Regional Scale
10.7.1.1.1 Hydrology
10.7.1.1.2 Water Quality
10.7.1.1.3 Related Aquatic Habitat
10.7.1.2 Monitoring Needs on the Project Level
10.7.1.3 Research for Adaptive Management
10.7.1.3.1 Limiting Nutrient
10.7.1.3.2 Groundwater and Benthic Flux

10.7.1.3.3 Fate and transport of organic nitrogen
10.7.1.3.4 Establish performance measures for aquatic habitats
10.7.1.3.5 Modeling tools for evaluation/assessment
10.7.1.3.6 Hot spot identification
10.7.1.4 Model Tool Needs
10.7.2 Plan Implementation

11.0 Recommended Projects and Actions

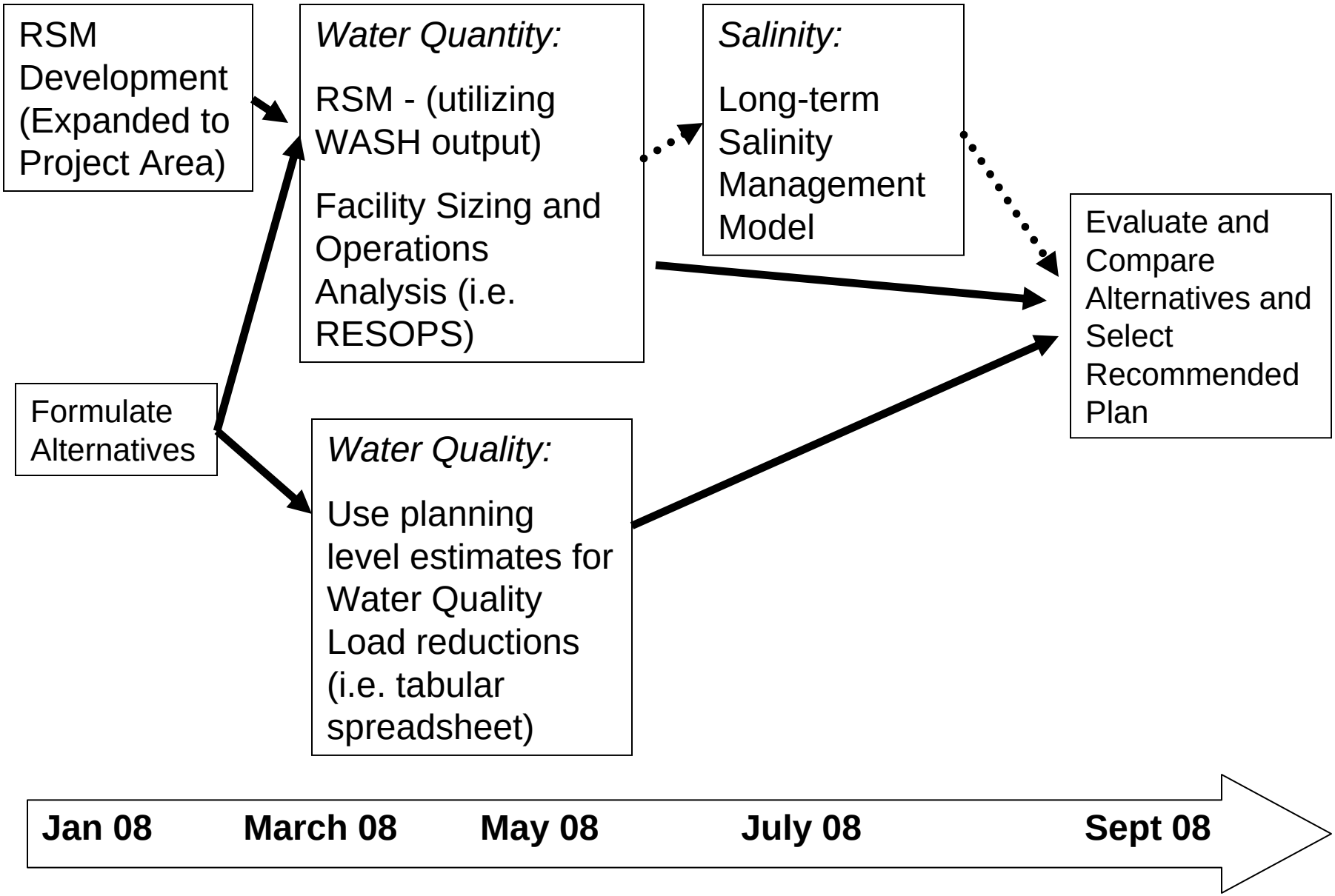
11.1 Watershed Construction Project
11.2 Watershed Pollutant Control Program
11.3 Watershed Research and Water Quality Monitoring Program
11.4 Plan Refinement and Revision

St. Lucie River Watershed Protection Plan
DRAFT Proposed Performance Measures - 11/29/2007

Problem	Objective	Performance Measure	Target	Comments
Excess regulatory discharges from Lake Okeechobee	Manage Lake Okeechobee flows to meet desirable salinity ranges for estuary	Number of times St. Lucie High Discharge Criteria Exceeded - Mean Monthly Flows between 2,000 and 3,000 cfs	0 months	
		Number of times St. Lucie High Discharge Criteria Exceeded - Mean Monthly Flows greater than 3,000 cfs	0 months	
Excess discharges resulting from watershed run-off	Manage watershed discharges to meet desirable salinity ranges for estuary	Number of times St. Lucie High Discharge Criteria Exceeded - Mean Monthly Flows between 2,000 and 3,000 cfs	28 months	
		Number of times St. Lucie High Discharge Criteria Exceeded - Mean Monthly Flows greater than 3,000 cfs	28 months	
		Number of times Mean Monthly Flows from watershed are less than 350 cfs	31 months	
Excess Nutrient Loads to river and estuary	Meet Total Maximum Daily Loads	C-23 Basin - Total Nitrogen Load	tbd	FDEP to determine targets through the TMDL efforts
		C-23 Basin - Total Phosphorus Load	tbd	
		C-24 Basin - Total Nitrogen Load	tbd	
		C-24 Basin - Total Phosphorus Load	tbd	
		C-44 Basin - Total Nitrogen Load	tbd	
		C-44 Basin - Total Phosphorus Load	tbd	
		Estuary - Total Nitrogen Load	tbd	
		Estuary - Total Phosphorus Load	tbd	

St. Lucie River Watershed Protection Plan:

DRAFT Proposed Modeling Plan – 11/29/2007



St. Lucie River Watershed Protection Plan
DRAFT Management Measures
11/29/2007

Existing Managemement Measures in LOP2TP

MM #	Project Feature/Activity	Level
1	BMPs (Agricultural)	1
2	Urban Turf Fertilizer Rule (LOER Initiative)	1
3	Land Application of Residuals	1
4	Florida-friendly landscaping (aka Florida Yards & Neighborhoods Program)	1
5	Existing Environmental Resource Permit (ERP) Program	1
6	NPDES stormwater permitting program (FDEP)	1
7	Northern Everglades Management Measures Coastal and Estuarine Land Conservation Program (FDEP)	1
8	Alternate Water Storage (AWS) – Indiantown Citrus Growers Association	1
9	Alternate Water Storage (AWS) – Dupuis	4
10	Alternate Water Storage (AWS) – Waste Management St. Lucie Site	4
11	Taylor Creek Algal Turf Scrubber® Nutrient Recovery Facility	1
12	CERP IRL South: C-44 Reservoir / STA	1
13	Lakeside Ranch STA	2
14	Environmental Resource Permit (ERP) Basin Rule	3
15	Brady Ranch STA	3
16	Permanent Forward Pumps (LOER Initiative)	3
17	C-44 littoral Zone Project	4
18	Easements	5
19	Additional Agricultural BMPs (Next Generation BMP)	1
20	Watershed phosphorus source control projects	1
21	Florida Power and Light Martin Cooling Pond	3
22	Wastewater & Stormwater Master Plans	4
23	Unified Statewide Stormwater Treatment Rule	4
24	Isolated connection between L-65 Canal and L-8 Canal via L-8 Tie-Back Canal (L-65 to L-8 Connection)	4
25	L-8 Phase I Reservoir	2
26	Comprehensive Planning – Land Development Regulations	3
27	Local Initiatives	
28	Florida Ranchlands Environmental Services Project (FRESP)	1
29	Farm and Ranchland Protection Program Partnership	5
30	tbd	

St. Lucie River Watershed Protection Plan
DRAFT Management Measures
11/29/2007

New Management Measures for SLRWPP

MM #	Project Feature/Activity	Level
31	Harmony Heights Subdivision (Phase II – V)	1
32	White City Canal D	1
33	White City Drainage Improvements (Citrus/Saeger)	1
34	White City Drainage Improvements (canals B, C, E, F, G)	2
35	Paradise Park Stormwater Improvements (Phase III – V construction)	1
36	Indian River Estates/Savannas Ecosystem Management Project	1
37	Platt's Creek Wetland Restoration	2
38	Indian River Drive Stormwater Outfall Retrofits	1
39	Natural Lands in IRL-S CERP Project	2
40	St. Lucie Watershed Natural Area Registry Program	1
41	Creation of suitable oyster substrate in the St. Lucie Estuary	2
42	Increased retention/detention areas within the C-23 and C-24 Basins	5
43	Routine Inspection of Septic Systems	
44	Removal of Accumulated Muck in the St. Lucie River and Estuary	
45	On-site remediation of selected sludge application areas	5
46	Improved management of sludge disposal in St. Lucie County through the use of an innovative technology (Plasma-Arc)	2
47	Identification of water quality "hot-spots" in watershed	
48	Reservoir and/or Stormwater Treatment Area along the south side of the C-44 Canal	5
49	Conversion of existing canals into "linear wetland treatment areas"	3
50	Increased use of Xeriscaping in new residential and commercial construction	
51	Funding Partnership with St. Lucie River Issues Team (SLRIT)	5
52	North River Shores Vacuum Sewer System	
53	CERP - IRL South: PalMar Complex - Natural Storage and Water Quality Area	1
54	CERP - IRL South: C-23/24 Reservoir/STA	1
55	CERP - IRL South: Allapattah Complex - Natural Storage and Water Quality Area	1
56	CERP - IRL South: Northfork Natural Floodplain Restoration	1
57	CERP - IRL South: Muck Remediation and Artificial Habitat	1
58	Tropical Farms Roebuck Creek Stormwater Quality Retrofit	
59	Old Palm City Phase III Stormwater Quality Retrofit	
60	Manatee Pocket Dredging Project	
61	Stormwater Baffle Box Retrofit - City of Stuart	
62	Old Palm City/Danforth Creek Stormwater Quality Retrofit	
63	North St. Lucie River Water Control District Stormwater Retrofit; Structures 81-1-2 and 85-1-2	
64	Indiantown Citrus Growers Water Conservation Project, Phase II	
65	All American Boulevard Ditch Retrofit	